



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

March 4, 2013

Mr. Jim Martinez
Chevron Business and Real Estate Services
145 South State College Boulevard, Suite 400
Brea, California 92821

**Re: Birch Hills Golf Course in Brea, California,
Southwest Golf Course Cleanup Goals**

Dear Mr. Martinez:

The U.S. Environmental Protection Agency, Region 9 (EPA) has reviewed Amendment #7, "*Risk Receptor Revisions*" submitted on April 26, 2012. This document was submitted by URS Corporation (URS) on behalf of Chevron Land and Development Company (Chevron).¹ Amendment #7 amends Chevron's November 18, 2011 "*Soil Management and Sample Analysis Plan*" ("SMSAP") and proposes risk-based screening levels ("RBSLs") to apply as cleanup goals in the Southwestern Golf Course portion of the site.

EPA has reviewed Amendment #7 and is hereby establishing alternate cleanup goals under the Toxic Substances Control Act ("TSCA") regulations in 40 CFR § 761.61(c) for a risk-based cleanup. In addition, this letter reflects the February 6, 2013 agreements ("Agreements") reached between EPA and Chevron/URS regarding the following cleanup goals for the Southwestern Golf Course portion of the site:

1. **Area-wide cleanup goal.** A cleanup goal of 0.74 mg/kg total PCBs in soils in the top 2 feet below final grade must be met throughout the Southwestern Golf Course. Compliance with this cleanup goal shall be demonstrated using 95% upper confidence limits on mean concentrations (95% UCL) calculated using the current version of EPA's Pro-UCL software.
2. **Maximum concentration for individual samples.** Any volumes of soil represented by samples exceeding 7.4 mg/kg total PCBs must be excavated and disposed of based on as-found concentrations. Further sampling to determine the extent of contamination, and removal following a standard excavation procedure must be completed consistent with the Agreements, summarized in the attached February 8, 2013 email message to Chevron/URS ("*PCBs: Birch Hills Golf Course Site, Brea, CA – Agreements Reached on February 6, 2013*").

¹ Chevron is supporting the site owner, Birch/Kraemer LLC, on the PCB cleanup.

In general, soils with PCB concentrations greater than 7.4 mg/kg will be excavated in a 30 x 30 foot square, with step-out and confirmation samples being taken on both the sidewalls and excavation floor.

3. **Spatial distribution of contamination.** EPA will use this information to determine whether the spatial distribution of residual total PCB concentrations does not suggest that any areas of the site meaningfully exceed the cleanup goal of 0.74 mg/kg total PCBs. Compliance with the 0.74 mg/kg cleanup goal will also be demonstrated using the 95% UCL. To provide EPA with a basis to evaluate spatial distribution of residual concentrations of total PCBs in near-surface soils (up to 2 feet below final grade) at the site, Chevron/URS must provide EPA with maps and tables that clearly depict the soil sample locations, depths, and residual PCB concentrations.

Chevron/URS intend to focus their remedial efforts in the Southwestern Golf Course to the top 5 feet of soils, as documented in Issue #1 of the February 8, 2013 message. However, due to the size of the Site and resource constraints, much of the soil deeper than the top 2 feet of soil below final grade will be left in place without thorough characterization. As such, EPA may require that the cleanup goals be met at other depth intervals or Southwest Golf Course locations due to golf course infrastructure activities. Chevron/URS has acknowledged the need for land use restrictions and a soil management plan to be developed for soils that are either not fully characterized or that do not meet the cleanup goals. This Approval does not cover these issues, and EPA will work with Chevron/URS to resolve them.

This approval does not relieve the site owner, Birch/Kraemer LLC, and supporting companies Chevron Land Development Company and URS Corporation, from complying with all other applicable federal, state, and local regulations and permits. Departure from the approval conditions without prior written permission from EPA may result in the commencement of proceedings to revoke this approval, and/or an enforcement action. Nothing in this approval bars EPA from imposing penalties for violations of this approval, for violations of other applicable TSCA PCB requirements, or for activities not covered under this approval.

We look forward to assisting you with the implementation of cleanup procedures at the site. Please call Nathan Dadap at (415) 972-3654 if you have any questions concerning this approval.

Sincerely,



Jeff Scott, Director
Waste Management Division

Enclosure:

Email Message dated February 8, 2013: *"PCBs: Birch Hills Golf Course Site, Brea, CA
– Agreements Reached on February 6, 2013"*

cc w/ Enclosure (e-mail only):

Trevor Black, Chevron

Garrick Jauregui, Chevron

Jerome Zimmerle, Jr., URS

Steven T. Speer, OCHCA

Kamron Saremi, SARWQCB

Carmen Santos, EPA R9

Dadap, Nathan C.

From: SANTOS, CARMEN
Sent: Friday, February 08, 2013 12:59 PM
To: Garrick Jauregui (garrick@chevron.com); Zimmerle, Jerome
Cc: Mandel, Jordan; Dadap, Nathan C.; ARMANN, STEVE; Rinehart, Thomas W (Tom.Rinehart@chevron.com)
Subject: PCBs: Birch Hills Golf Course Site, Brea, CA - Agreements Reached on February 6, 2013

Hello Jerry and Garrick:

Thank you for your February 8, 2013 e-mail message (attached below) replying to Nathan Dadap's February 1, 2013 e-mail message. We understand that your message summarizes (text in green font) Chevron's understanding of the agreements that we reached on February 6, 2013 on several issues concerning the Birch Hills Site. We concur with Chevron's February 8, 2013 agreement summary as revised in this message. The revisions are based on the summary that Chevron provided and the February 6, 2013 conference call.

The text below is the same text that you sent to us, except that now all issues are numbered and EPA has added clarifications (black text in Arial font) where necessary. Clarifications were added to items 2, 4, 8, and 9(a).

Chevron and EPA February 6, 2013 Agreements - Revised by EPA on February 8, 2013

- 1) To what depth does Chevron/URS intend to remediate soils? Data collected to-date indicate the bulk of the PCBs are located in the upper 5-feet, so we are concentrating our remedial effort from 0 to 5-ft, while obtaining additional samples to show the deeper soil meet the goals or to provide the basis for discussion on specific deeper areas that might need to be remediated (i.e., the GS-60/61 excavations are already planned to be roughly 10-ft in depth).
- 2) How will cleanup levels be met in the upper two feet of soil after final grading activities have been accomplished? Most of the grading in the southwest will be limited to the upper foot of soil as shown in the latest cut/fill figure sent to the EPA. Deeper soil that will be disturbed will be characterized and, if necessary, remediated, to planned goals before the final grading occurs. **EPA Clarification:** Characterization sampling of deeper soils must be done in-situ and the in-situ concentration used to determine disposal method. Figures depicting cut and fill areas relative to the excavations to be done in the southwest portion of the Site must be provided to verify that deeper soils containing PCBs do not resurface during golf course rehabilitation activities such as reconfiguring, regrading, and/or installation of irrigation system. Latest cut and fill plans must be kept in mind as excavations proceed.
- 3) In volumes of soils where sufficient characterization sampling has not been carried out below a certain depth, how will Chevron/URS manage those soils to ensure that no unreasonable risk is posed to all future site receptors? Land use restrictions and a soil management plan will be developed with the EPA for deeper soils that do not meet goals.
- 4) How will Land Use Restrictions be employed in achieving these goals? Restricted uses of the southern half of the golf course will be developed with the EPA as part of the completion of the remedial program. **EPA Clarification:** Upon request, EPA will provide examples of land use covenants that have been recorded for other PCB cleanup sites.

Thank you for providing EPA with a current cut and fill plan.

We also believe that the following information will be helpful for discussion:

- 5) A full data table with samples to date and 6) Site figures with sample locations and excavations completed to date – tables and figures are being drafted will be provided as completed (expected during the week of Feb 11th). In addition as we discussed, as remedial actions are completed within the defined area of each golf course hole, a final data set/figures for that area will be submitted to the EPA for review and concurrence that goals have been met, and to provide the basis for discussions on land use restrictions and depths.

7) Finalizing cleanup goals for the SW golf course

EPA has proposed final cleanup goals for the SW golf course. As discussed on the phone call, EPA is considering requiring three goals that would need to be met simultaneously. First, the 95% Upper Confidence Limit (UCL) of all samples to a certain depth must not be greater than 0.74 mg/kg PCBs. Secondly, 7.4 mg/kg PCBs in soils must not be exceeded on a point by point basis. Lastly, EPA will review the sampling data at the conclusion of excavation and determine whether any potential hotspots remain based on the spatial distribution of samples. These hotspots would then need to be removed.

This is consistent with our understanding of the goals, with further discussion on the definition of a hot spot to be conducted as the final data set is obtained.

8) Sampling and Excavation of known hotspots

Chevron/URS and EPA have discussed options to sample and delineate the boundaries of excavation for known volumes of soil that will be disposed of in the planned consolidation area. EPA is requesting that, weather permitting, only excavations of soils for disposal in the consolidation area (less than 25 mg/kg PCBs) be carried out. These excavated soils must be stored in the current staging area on Planning Area 12B in accordance with the Amendment 11 Approval. Any soils greater than 25 mg/kg may only be excavated in the event that they will be disposed of offsite immediately; this may be contingent upon dry weather during the rainy season.

We concur with this approach, with one change as discussed. If soil greater than 25 mg/kg is found, it will be disposed off-site as soon as possible, but no later than 3 working days, so that we have sufficient time to arrange for disposal. This soil will be placed on plastic as discussed. **EPA Clarification:** In addition, the soils must be properly covered to prevent their mobilization by rainwater or surface runoff and/or dispersion by wind.

9) Excavation boundary sampling procedure requirements

In a January 17, 2013 email message, Chevron/URS proposed a characterization and confirmation sampling procedure to delineate the excavation bounds of areas with known contamination. EPA recommends three revisions to this procedure:

a) Sidewall samples shall be taken at 1 foot depth intervals from the ground surface to the floor of the excavation – Given the large number of samples that would have had to be collected under this approach, we discussed the following alternative with EPA on Feb 6th. Two evenly spaced borings will be placed on each sidewall. Soil samples will be collected from the sidewall borings at the depth of the maximum concentration detected (step-out), and then at the mid-point between that depth and the base of the excavation (confirmation). For example, most of the planned excavations will be 5-feet deep, so samples would be collected at 2-ft (step-out) and 3.5 feet (confirmation) for an excavation with a maximum concentration at 2-ft. In addition, five borings will be placed within the excavation boundaries with samples collected at the planned excavation base to collect a base sample from each boring. Additional step-out borings will occur if the detected concentrations exceed the 7.4 mg/kg maximum goal. The final data set for each area will be used to define the excavation boundaries and care will be taken in the field to avoid overexcavating the final sample locations. If stained or debris-mixed soil is found at the excavation boundaries, then additional excavation or sampling will occur to resolve the potential PCB impacts in this material. Sampling programs for step-outs, smaller (i.e., side-wall cleanup of consolidation soil found in the prior > 25 mg/kg excavations) or larger (i.e. GS-60-61) excavations will be adjusted based on discussions with the EPA.

EPA Clarification: The mid-point sidewall confirmation samples will be collected as described in this agreement unless adjustments are needed because excavations are deeper than 5 feet. For a 5-foot deep excavation, two (2) pairs of step-out/mid-point confirmation samples will be collected from each excavation wall. Chevron and EPA will confer on the number of sidewall mid-point confirmation samples for excavations larger than 5 feet. Sidewall mid-point confirmation samples are not necessary for excavations shallower than 5 feet unless those excavations require to be deeper because of the finding of "stained or debris-mixed soils."

EPA Clarification: If "stained or debris-mixed soil" is found at the floor or sides of the excavation, that material must be sampled in situ before excavation, excavated, and new sidewall (that is paired step out/and confirmation samples) and floor cleanup confirmation samples collected to verify that PCBs in the excavation soils do not exceed the 7.4 mg/kg total PCB maximum concentration. Alternatively, Chevron may assume for disposal purposes consistent with 40 CFR 761.61(a)(i)(B)(2)(i) that "stained or debris-mixed soil" planned to be removed from the excavation contains total PCBs at concentrations equal to or above 50 mg/kg. The PCB concentrations remaining in any excavation must be accurately represented by analysis results of sidewall step-out, mid point confirmation, and floor confirmation samples.

b) Sidewall samples should be taken at two, evenly spaced boring locations on each sidewall, instead of one in the center as is currently being proposed - **Concur**

c) Samples that meet the cleanup level should define the excavation boundary, and Chevron/URS should provide, in writing, details on excavation procedures to ensure that cross-contamination of sidewalls and the excavation floor will not occur during excavation – We will implement the following program. 1) - Field crews will visually observe the excavation bucket for evidence of soil smearing on the bucket. FYI, our experience has shown that smearing has not been an issue as the site soil is predominantly silty sand, and does not have a significant tendency to smear. Post-excavation confirmation samples have almost entirely had non-detect to low concentrations, providing technical data that PCB cross-contamination due to smearing is not occurring/significant. Post-decon wipe samples have also provided evidence that our contaminant control procedures are working. 2) – Stained or debris-mixed soil that have been indicators of higher PCB concentrations to-date will be overexcavated and segregated from the consolidation soil to limit the potential for cross-contamination. Similarly, the pre-excavation confirmation sampling program as noted in the first bullet in this section will have identified potential areas with PCB impacts above 25 mg/kg, so these soils can be removed separately from the main consolidation soil removal program. The excavation equipment can then be decontaminated to avoid cross-contamination.

As a follow-up, here's some rough milestone dates we'd like to achieve to meet our overall goal of opening the golf course by the start of 2014.

- Pre-excavation sampling – immediately based on Wednesday's discussions
- Excavation for consolidation with stockpiling in the staging area – start as early as Feb 14th
- Consolidation area – start excavation early to mid-March depending on the weather
- EPA review of golf course data on a hole-by-hole basis for concurrence remediation is complete/hot spots resolved – start early March, finish no later than mid-April, roughly 2 wks per hole.
- 12B soil transfer to consolidation area – early April
- Consolidation area filled and start of cap construction – early May
- Golf course redevelopment – start in mid-March in cleared areas (north), continuing in south as individual holes are cleared
- Seeding completed as needed across the golf course – end of August

EPA appreciates Chevron's/URS' cooperation in reaching agreement on remaining issues that needed to be resolved in connection with the PCB cleanup at the Birch Hills Site. The February 1 and 6, 2013 conference calls that we had to that end were productive. Please call Nathan Dadap at 415.972.3654 or me if you have any questions concerning the Revised Agreement.

Thank you for your courtesies.

Sincerely,
Carmen

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"Think left and think right and think low and think high. Oh, the things you can think up if only you try!" Dr. Seuss
